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10/809,223

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Manoj Kumar Singhal

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MCANDREWS HELD & MALLOY, LTD  
500 WEST MADISON STREET  
SUITE 3400  
CHICAGO, IL 60661

EXAMINER

HOLDER, ANNER N

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/809,223	<b>Applicant(s)</b> SINGHAL, MANOJ KUMAR	
	<b>Examiner</b> ANNER HOLDER	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/18/08.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 4-8 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-14, and 20-21 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-3, 9-14, 20 and 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 9-14, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey US 5,495,576 in view of Salmonsens US 7,209,874 B2.

4. As to claim 1, Ritchey teaches a method of broadcasting multidimensional virtual reality audio and visual information, [Abstract; Fig. 17; Col. 13 Lines 2-4; Col. 21 Lines 33-58] the method comprising: acquiring audio and visual information from a plurality of acquisition angles in a three dimensional space; [Fig. 1; Figs. 6-7; Figs. 15-18; Fig. 20; Fig. 24; Abstract; Col. 7 Lines 43-47; Col. 8 Lines 25-44; Col. 9 Lines 46-58; Col. 10 Lines 9-30; Col. 11 Line 31 – Col. 12 Line 19; Col. 12 Line 60 – Col. 13 Line 2] processing the acquired audio and visual information for transmission; [Abstract; Fig. 1; Figs. 6-7; Figs. 15-18; Fig. 20; Fig. 24; Col. 7 Line 55 – Col. 8 Line 25; Col. 9 Lines 46-58; Col. 10 Lines 9-30; Col. 15 Lines 49-50; Col. 16 Lines 10-44] receiving the processed audio and visual information; [Figs. 15-22; Abstract; Col. 16 Lines 10-44; Col. 17 Lines 40-51; Col. 20 Lines 46-56; Col. 21 Lines 28-37, 47-58; Col. 28 Lines 38-49]

and projecting the audio and visual information in a multidimensional virtual form from a plurality of projections angles in three dimensional space. [Fig. 19; Col. 30-51; Col. 34 Line 46 – Col. 35 Line 15]

Although Ritchey teaches processing of within an MPEG environment through “NTSC, PAL, SECAM, IDTV, HDTV, or the like”. [col. 11 lines 49-54] Therefore, it is well known in the art that audio compression is supported within an MPEG environment evidenced by Salmonsens which teaches audio encoding and decoding, wherein audio encoding and decoding comprises MPEG 1 level 3 shows optional MPEG processing. [Salmonsens - fig. 1; col. 4 line 65 - col. 5 line 13]

5. As to claim 2, Ritchey teaches storing the audio and visual information; [Fig. 1 (25a, 25b); Col. 8 Lines 13-17] communicating the audio and visual information via a communication network; [Fig. 1 (20); Figs. 15-23; Col. 17 Line 52 – Col. 18 Line 50] acquiring sound information surrounding and emanating from a subject from a plurality of angles around the subject; [Fig. 1(8); Figs. 2-7; Figs. 15-16; Col. 8 Lines 25-43; Col. 10 Lines 40-46; Col. 12 Lines 20-32, 52-54, 59-67; Col. 13 Lines 62-67] acquiring visual information surrounding and emanating from the subject, wherein visual information comprises visual features of an entirety of an exterior surface of a subject are acquired multidimensionally; [Fig. 1; Figs. 6-7; Fig 14; Abstract; Col. 10 Lines 40-46; Col. 12 Lines 20-32, 52-54, 59-67; Col. 13 Lines 62-67] and producing a multidimensional surrounding visual representation and a multidimensional surrounding audio representation of a projected subject, wherein the projected subject is identical to a subject from which audio and visual information was previously acquired. [Abstract; Fig.

1; Figs. 15-22; Col. 21 Line 28-58; Col. 22 Lines 26-49; Col. 25 Lines 12-67; Col. 29 Lines 28-31]

6. As to claim 3, Ritchey (modified by Salmonsens) teaches processing the audio and visual information further comprises: projecting holographic information [Fig. 1; Abstract; Col. 8 Line 50] from a plurality of holographic projector units interact to form a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, from a plurality of angles simultaneously; [Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51] and focusing and projecting holographic information to a zone of projection, wherein holographic projection units project holographic information to a location corresponding to an identical location where visual information was captured, creating a multidimensional virtual reality representation of the subject. [Col. 30 Lines 43-51]

7. As to claim 9, Ritchey teaches A method of displaying and projecting multidimensional audio and visual (A/V) information, the method comprising: projecting A/V information into a multidimensional display region, the multidimensional display region comprising a uniform field of focused projection, [Abstract; Fig. 17; Col. 13 Lines 2-4; Col. 21 Lines 33-58] wherein displaying A/V information further comprises projecting A/V information from a plurality of discrete projection angles located at a plurality of locations in three dimensional space; [Fig. 1; Figs. 6-7; Figs. 15-18; Fig. 20; Fig. 24; Abstract; Col. 7 Lines 43-47; Col. 8 Lines 25-44; Col. 9 Lines 46-58; Col. 10 Lines 9-30; Col. 11 Line 31 – Col. 12 Line 19; Col. 12 Line 60 – Col. 13 Line 2]

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processing received A/V information, wherein processing received A/V information comprises at least one of decompressing and decoding A/V information, wherein processing A/V information further comprises audio decoding and video decoding, wherein audio decoding comprises MPEG; [Fig. 20; Col. 12 Lines 11-16; Col. 13 Lines 2-23; Col. 32 Lines 37-44; Col. 33 Lines 49-52; col. 11 line 49-54, MPEG is the standard for video and audio compression; it is suggested in Ritchey specification that several formats are applicable such “NTSC, PAL, SECAM, IDTV, HDTV, or the like” is processed within the device] projecting the A/V information in a multidimensional virtual form into a corresponding multidimensional projection zone; Fig. 19; Col. 30-51; Col. 34 Line 46 – Col. 35 Line 15; Abstract; Fig. 17; Col. 13 Lines 2-4; Col. 21 Lines 33-58] storing A/V information in a plurality of storage media devices; [Fig. 1; Col. 7 Line 55-Col. 8 Line 25; Col. 16 Lines 6-9] and receiving A/V information from at least one communication network. [Fig. 1 (20); Figs. 15-23; Col. 17 Line 52 – Col. 18 Line 50]

Although Ritchey teaches processing of within an MPEG environment through “NTSC, PAL, SECAM, IDTV, HDTV, or the like”. [col. 11 lines 49-54] Therefore, it is well known in the art that audio compression is supported within an MPEG environment evidenced by Salmonsens which teaches audio encoding and decoding, wherein audio encoding and decoding comprises MPEG 1 level 3 and the video decoding comprising video decoding comprises MPEG 2 decoding processes, shows optional MPEG processing. [Salmonsens - fig. 1; col. 4 line 65 - col. 5 line 13]

8. As to claim 10, Ritchey (modified by Salmonsens) teaches displaying the A/V information comprises using an A/V display chamber, wherein the A/V display chamber

has a shape comprising at least one of spherical, rectangular, square, and ovoid, and wherein the A/V display chamber is selected from one of a room and a stage. [Fig. 7; Figs. 19-25; Col. 1 Lines 21-25; Col. 10 Lines 31-55; Col. 32 Lines 1-2]

9. As to claim 11, Ritchey (modified by Salmonsens) teaches processing visual information, wherein processing visual information further comprises at least one of enabling a video display engine to transform the visual information into a video output signal and enabling a holographic display engine to transform the visual information to a holographic output signal; transmitting one of the video output signal to a video projection unit and the holographic output signal to a holographic projection unit; processing audio information and transmitting the audio information via an audio output signal to an audio projection unit; and receiving and projecting one of a combined holographic and audio output signal, a combined video and audio output signal, a separate holographic output signal and audio output signal, and a separate video output signal and audio output signal received from one of the A/V decoding system and a storage system. [Fig. 1; Abstract; Col. 8 Line 50; Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51]

10. As to claim 12, Ritchey (modified by Salmonsens) teaches receiving and projecting the audio and visual information is performed by a plurality of video projection units for projecting and displaying the video output signal and a plurality of audio projection units for projecting the audio output signal, wherein a plurality of A/V display units are distributed around an interior surface of an A/V display chamber. [Fig. 14; Fig. 19; Fig. 23; Abstract; Fig. 17; Col. 13 Lines 2-4; Col. 21 Lines 33-58; Col. 7 Lines 43-47;

Col. 8 Lines 25-44; Col. 9 Lines 46-58; Col. 10 Lines 9-30; Col. 11 Line 31 – Col. 12 Line 19; Col. 12 Line 60 – Col. 13 Line 2]

11. As to claim 13, Ritchey (modified by Salmonsens) teaches further comprising focusing and directing audio information and projected holographic information upon a center region of the A/V display chamber producing a multidimensional surrounding visual and multidimensional surrounding audio representation of a projected subject. [Abstract; Col. 30 Line 29 – Col. 32 Line 20]

12. As to claim 14, Ritchey (modified by Salmonsens) teaches projecting holographic information from a plurality of holographic projector units forming a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, arriving from a plurality of angles around an entirety of the A/V display chamber simultaneously; [Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51] focusing and projecting the holographic information from a plurality of discrete angles and overlapping zones of projection; [Col.30 Lines 29-51] projecting holographic information to the zone of projection via a plurality of holographic projection units, wherein the holographic projection units project holographic information to a location creating a multi-dimensional virtual reality representation of a subject; [Abstract; Col. 30 Lines 29-51] and playing received audio information via a plurality of audio playback units, each of the audio playback units comprising at least one speaker, the audio playback units focusing and projecting audio information to create a multidimensional



virtual audio representation of a subject's sound information and speech. [Col. 7 Lines 43-49; Col. 8 Lines 26-44; Fig. 17; Fig. 1; Fig. 5; Col. 20 Lines 10-31]

13. As to claim 20, Ritchey teaches A multidimensional virtual reality audio and visual (A/V) system comprising: an A/V capture system for acquiring audio and visual information from a multidimensional acquisition zone; [Fig. 1; Figs. 6-7; Figs. 15-18; Fig. 20; Fig. 24; Abstract; Col. 7 Lines 43-47; Col. 8 Lines 25-44; Col. 9 Lines 46-58; Col. 10 Lines 9-30; Col. 11 Line 31 – Col. 12 Line 19; Col. 12 Line 60 – Col. 13 Line 2] an A/V encoding system, the A/V encoding system processing the acquired A/V information for transmission, [Fig. 20; Col. 12 Lines 11-16; Col. 13 Lines 2-23; Col. 32 Lines 37-44; Col. 33 Lines 49-52] and wherein processing further comprises audio encoding and decoding, wherein audio encoding and decoding comprises MPEG; [Fig. 20; Col. 12 Lines 11-16; Col. 13 Lines 2-23; Col. 32 Lines 37-44; Col. 33 Lines 49-52; col. 11 line 49-54, MPEG is the standard for video and audio compression; it is suggested in Ritchey specification that several formats are applicable such “NTSC, PAL, SECAM, IDTV, HDTV, or the like” is processed within the device] an A/V decoding system, the A/V decoding system processing received audio and visual information; and an A/V display system, the A/V display system projecting the audio and visual information in a multidimensional virtual form to a corresponding multidimensional projection zone. [Fig. 20; Col. 12 Lines 11-16; Col. 13 Lines 2-23; Col. 32 Lines 37-44; Col. 33 Lines 49-52]

Although Ritchey teaches processing of within an MPEG environment through “NTSC, PAL, SECAM, IDTV, HDTV, or the like”. [col. 11 lines 49-54] Therefore, it is well

known in the art that audio compression is supported within an MPEG environment evidenced by Salmonsens which teaches audio encoding and decoding, wherein audio encoding and decoding comprises MPEG 1 level 3 shows optional MPEG processing. [Salmonsens - fig. 1; col. 4 line 65 - col. 5 line 13]

14. As to claim 21, Ritchey teaches a plurality of storage media devices for storing audio and visual information the storage media devices for storing audio and visual information comprising at least one of a stationary storage device and a mobile storage device, the A/V system being communicatively coupled to at least one communication network, the A/V information being communicated between one of the A/V encoding system, the A/V decoding system, and at least one of a plurality of storage media devices for storing audio and visual information, the A/V capture system and the A/V display system being one of located at different geographic locations and co-located at a plurality of different geographic locations, additional A/V information is combined with acquired A/V information from the A/V receiver units, the additional A/V information comprises at least one of music, graphs, pictures, tables, documents, and backgrounds, [Col. 10 Lines 32-53] the A/V decoding system processing received A/V information further comprises audio decoding and video decoding, the audio decoding comprising MPEG 1, [Fig. 20; Col. 12 Lines 11-16; Col. 13 Lines 2-23; Col. 32 Lines 37-44; Col. 33 Lines 49-52; col. 11 line 49-54, MPEG is the standard for video and audio compression; it is suggested in Ritchey specification that several formats are applicable such "NTSC, PAL, SECAM, IDTV, HDTV, or the like" is processed within the device] the A/V decoding system further comprising a video display engine transforming the visual

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information into a video output signal, the video output signal being transmitted to a video projection unit, the A/V decoding system further comprising a holographic display engine transforming the visual information into a holographic output signal, the holographic output signal being transmitted to a holographic projection unit, the A/V decoding system further comprising transforming the received audio information into an audio output signal and transmitting the audio output signal via at least one communications network, the audio output signal being transmitted to an audio projection unit, the audio output signal and one of a video output signal and a holographic output signal being transmitted one of combined together and separately, the A/V display system receiving one of a combined holographic and audio output signal, a combined video and audio output signal, a separate holographic and audio output signal, and a separate video and audio output signal from one of the A/V decoding system [Fig. 1; Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51] and a media storage device, [Fig. 1; Col. 7 Line 55- Col. 8 Line 25; Col. 16 Lines 6-9] the A/V display system comprising an A/V display chamber, the A/V display chamber having a shape comprising one of spherical, rectangular, square, and ovoid, [Fig. 7; Figs. 19-25; Col. 1 Lines 21-25; Col. 10 Lines 31-55; Col. 32 Lines 1-2] and the A/V display chamber further comprises one of a room and a stage, the A/V display chamber comprising a plurality of video projection units for projecting the video output signal and a plurality of audio projection units for projecting the audio output signal, the A/V display chamber comprising a plurality of A/V display units distributed around an interior surface of the A/V display chamber, audio

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information and holographic information being directed and focused upon a center region of the A/V display chamber producing a multidimensional surrounding visual representation and a multidimensional surrounding audio representation of a projected subject, the projected subject being identical to a subject from which the A/V information was previously captured in an A/V capture chamber, projected holographic information from a plurality of holographic projector units interact forming a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, arriving from a plurality of angles around an entirety of the A/V display chamber simultaneously, [Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51] the projected holographic information being focused and projected from a plurality of angles and zones of projection identically as acquired A/V information that was captured from respective corresponding angles and zones of acquisition by the A/V receiving units of the A/V capture chamber, the A/V display unit comprising a plurality of holographic projection units projecting holographic information to the zone of projection, the holographic projection units project holographic information to a location corresponding to an identical location in the A/V capture chamber where visual information was captured, and creating a multidimensional virtual reality representation of the subject, [Fig. 1; Figs. 6-7; Fig. 14; Figs. 18-19; Col. 20 Lines 54-56; Col. 28 Line 62 – Col. 29 Line 9; Col. 30 Lines 29-51] the A/V display unit comprising a plurality of audio playback units, the audio playback units comprising at least one speaker, the audio playback units projecting audio information to an identical location in the A/V display

chamber where the corresponding audio information was acquired in the A/V capture chamber, the plurality of audio playback units being focused to project audio information creating a multidimensional virtual audio representation of a subject's sound information and speech. [Col. 7 Lines 43-49; Col. 8 Lines 26-44; Fig. 17; Fig. 1; Fig. 5; Col. 20 Lines 10-31]

Although Ritchey teaches processing of within an MPEG environment through "NTSC, PAL, SECAM, IDTV, HDTV, or the like". [col. 11 lines 49-54] Therefore, it is well known in the art that audio compression is supported within an MPEG environment evidenced by Salmonsens which teaches audio encoding and decoding, wherein audio encoding and decoding comprises MPEG 1 level 3 and the video decoding comprising video decoding comprises MPEG 2 decoding processes, shows optional MPEG processing. [Salmonsens - fig. 1; col. 4 line 65 - col. 5 line 13]

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hsieh et al. US 5,883,640; Owen et al. US 6,414,996.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-Th, M-F 8 am - 3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/  
Examiner, Art Unit 2621 01/30/09

/Tung Vo/  
Primary Examiner, Art Unit 2621